

WOLLEMI PINE

COMMON NAME

Wollemia nobilis

SCIENTIFIC NAME

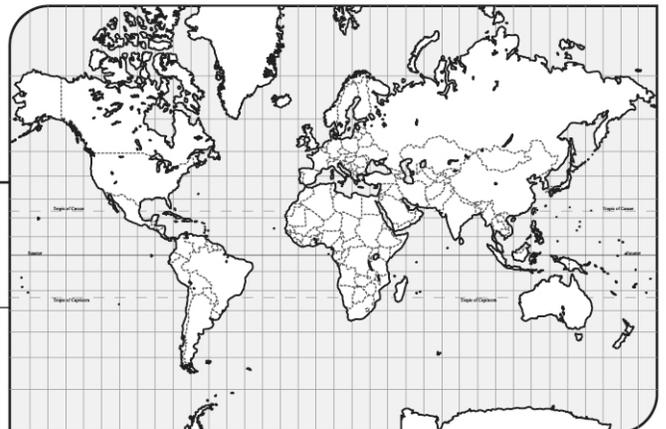


Photo Credit: Jaupc, Wikimedia

Importance

There are many plants known from the fossil record that are no longer found in our forests. The Wollemi pine was believed to be one of these plants. Known from a fossil finding dated to 90 million years old, and part of the 200 million year old *Araucariaceae* family, this pine was thought have gone extinct more than 2 million years ago. However, in 1994, David Noble, a New South Wales National Parks and Wildlife Services Officer, brought back a sample of an usual pine from a trip with friends in the Blue Mountains northwest of Sydney. A team of experienced botanists later declared the strange specimen a new genus with ancient lineage, making it a scientific discovery of international significance. Considered by many to be the most important botanical find of the century, the Wollemi pine is now the focus of extensive research to conserve this ancient species.

The Wollemi pine takes its name from Wollemi National Park, where the pine was discovered. Wollemi is an Aboriginal word meaning "look around you, keep your eyes open and watch out." The existing population



Araucaria Family (*Araucariaceae*)

FAMILY

Critically Endangered

RED LIST CATEGORY

consists of less than 100 mature individuals. However, even those few individuals may be relics of history. Some of the older adult Wollemi pines may be more than 1000 years old due to their habit of sprouting multiple trunks (coppicing). While any given trunk may be younger, the same root stock can live for hundreds of years. Though the population is small now, these trees may have once been widespread across Gondwana, the ancient supercontinent that was once composed of Australia, Antarctica, Africa, South America, Madagascar, the Arabian Peninsula, and the Indian subcontinent

Description

Form: The Wollemi Pine is a majestic conifer that grows up to 130 feet (40 m) high in the wild with a trunk diameter that can be over 3 feet (1 m). This tree's habit of spontaneously sprouting multiple trunks from its base (known as self-coppicing) has proved a vital defense in withstanding damage through fire and other natural disasters.

Leaf: The unusual, drooping foliage has light green tips in spring and early summer contrasting against the older dark green foliage. The mature foliage has two ranks of leaves along the branches. This pine has the unusual habit of shedding whole branches instead of dropping leaves.

Flower: The Wollemi pine is monoecious, producing both male and female flowers on the same tree. The cones of both sexes are found at the tips of the branches, with most of the female cones found at the top of the tree.

Fruit: The light winged seeds are usually found in the canopy, are believed to mature in autumn and are most likely dispersed by wind movement.

Bark & Twigs: Its bark is also distinct even from related species, looking very much like bubbling chocolate.

Habitat and Ecology

Discovered in Wollemi National Park in a gorge only 93 miles (150 km) northwest of Sydney, Australia, the Wollemi pine is native to the Australian state of New South Wales. They are located at only two known sites within the Blue Mountains, deep in a rainforest gorge, at about half a mile above sea level (670 m and 870 m altitude), just over half a mile (1 km) apart. The exact location is kept a secret, but they are surrounded by undisturbed forest and grow on moist ledges and along a small permanent stream at the bottom of a narrow sandstone canyon in the warm temperate rainforest. This tree prefers acidic soils and can have rapid growth in light. Its long-term ability to regenerate by seed in its present locality is unknown but seems doubtful due to competition with other trees. The tree may also be able to spread via suckers.

Threats

While the Wollemi pine is no longer only speculation from the fossil record, it is still one of the rarest species in the world, with less than 100 mature trees in the wild. The extremely limited habitat range, slow growth to reproductive age, and slow rate of seedling recruitment in this tree means that survival of this species is a cause for grave concern. Habitat disturbance, soil compaction, collection, and the effects of climate change all pose threats to this tree. But one of the greatest threats comes from tourists. In addition to trampling seeds and seedlings, and causing soil compaction, tourists can

introduce weeds and novel diseases to the small population. The species is currently under threat from a root rot fungus, *Phytophthora cinnamomi*, which is easily carried in spore form on boots or hiking gear and was likely introduced by unauthorized visitors to the site.

Conservation Action

To ensure protection of this newly discovered species, Wollemi pine has been listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 and the NWS Threatened species Conservation Act 1995. Despite these actions, humans are actually one of the greatest threats to this species. Because visiting tourists can bring in damaging fungi and weeds from other sites and can inadvertently trample plants, the exact location of the sites are kept secret and access is restricted to a few researchers who must follow strict hygiene procedures when entering the sites.

Due to the small number of pines known to exist, several additional measures have been taken to ensure the continued survival of this species. In addition to protecting the habitat where the Wollemi pines are located, the population is monitored and propagation trials are under way. This species is also being preserved ex-situ, or outside of its native range, through a network of botanic gardens, arboreta, and other growers that are growing this plant and learning how to better propagate and protect it for the future. As of 2005, seeds and cultivated individuals were being made available to the public through cultivated stock. The cultivation and worldwide release of the Wollemi pine is a key component of the conservation strategy. Today, there are more plants existing in cultivation than there are in the wild.

Want to help? Visit this plant at botanic gardens and arboreta, or spread the word about the importance of conserving this unique tree by telling others about the Wollemi Pine. You can also help insure the safety of wild populations by respecting signs in national parks or refuges indicating that an area is closed to the public – this can help prevent disease introduction and trampling of rare plants.

References

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